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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DIAMOND, ALAN D

ART UNIT	PAPER NUMBER
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1753

DATE MAILED: 08/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/827,250

Applicant(s)

KLEINWACHTER, JURGEN

Examiner

Alan Diamond

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-9 and 13-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-9 and 13-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Comments

1. The objections to the specification for informalities have been overcome by Applicant's amendment, other than the objections which are set forth below.
2. The rejection of claims 10 and 15-21 under 35 USC 112, second paragraph, have been overcome by Applicant's amendment thereof.
3. The rejections over Palazzetti et al are now moot in view of the fact that claims 5 and 18 are now independent claims, and Palazzetti et al was not used to reject these claims. Furthermore, Palazzetti et al lacks the combination of dual glass plane and movable light element therein.
4. The indication of allowable subject matter in claims 5-7 and 18-20 is withdrawn by the Examiner in view of the rejections that are set forth below.

Specification

5. The disclosure is objected to because of the following informalities: On page 11, at line 2, the word "is" should be changed to "be". Note that paragraph 0045 at pages 13-14 has underlining marks. These marks were made in pencil by the Examiner before scanning for IFW, and were not erased before the scanning. It is requested that Applicant submit a new paragraph 0045 in the next response so that a clean paragraph 0045 is present in the application. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 9 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 9, at lines 6-7, a light element movable by two degrees of freedom within the dual glass plane is not supported by the specification, as originally filed. Firstly, the light element recited in claim 9 comprises the translucent surface, the additional translucent surface, and the energy conduit which is between the translucent surface and the additional translucent surface. There is no light element, let alone a movable one, within the dual glass plane, as required by said lines 6-7, because the light element comprises what is within the dual glass plane as well as the two panes. What is within the dual glass plane is the energy conduit. However, the instant specification is silent concerning two degrees of freedom for the energy conduit. Indeed, the only teaching of movement of the energy conduit is photovoltaic elements (3) that can be rotated about axis (12) to track the sun (5) (see paragraphs 0028 and 0033; and Figure 1).

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 9, 13, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 is indefinite because it is not clear, at lines 5-7, how the light element can be within the dual glass plane when it actually comprises the dual glass plane, i.e., it comprises the translucent surface, the additional translucent surface and the energy conduit.

Claim 13 is indefinite because it is not clear at line 6 which of the plural pillows is being referred to by the term "the pillow". It is suggested that said term be changed to "each pillow". The same applies to dependent claim 14.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 15-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura (U.S. Patent 5,089,055).

With respect to claims 15, 16, 18, and 19, Nakamura teaches a light element comprising an energy conduit, wherein the energy conduit comprises solar to electric converter (20) which can comprise a solar cell, and the energy conduit also comprises optical waveguide means (16) (i.e., instant light guide) that clearly are flexible (see Figure 1; col. 3, lines 24-61; col. 5, lines 34-40; and col. 6, lines 37-55). Nakamura's light element further comprises plural concentration means (12), i.e., plural lenses (refractive optical elements or Fresnel lenses), which read on the instant plural translucent surfaces (see Figures 1 and 2; and col. 3, line 52 through col. 4, line 61).

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Nakamura teaches that its light element can be used with manned spacecraft (see Figure 12; col. 1, lines 16-26; and col. 8, lines 5-17). In instant claim 18, the recitation “for demarcating a living space” is merely intended use and is not deemed to be a positive limitation of the claims. In any event, in Nakamura’s Figure 12, the spacecraft is the living space since it can be manned. The optical concentrators and waveguide (optical fibers) demarcate the living space of the spacecraft since they are attached to the spacecraft.

With respect to claim 17, Nakamura’s energy conduit can include a fluid line (314) (see Figure 11A and the paragraph bridging cols. 7 and 8).

With respect to claim 20, Nakamura’s optical wave guide (16) has an entry end (14) for receiving the optical radiation (see Figure 1; and col. 3, lines 33-42), and this end can be used to track the moving focal point (see col. 5, lines 23-40). The optical waveguide (16) has an exit end that is stationary and aimed at said solar cell, as one skilled in the art would expect (see Figures 1 and 9).

With respect to claim 21, and in the alternative, Nakamura’s plural optical waveguides (16) encompass the instant plural translucent surfaces. Thus, Nakamura’s lenses (102) in front of each waveguide (see Figure 2), encompass the instant translucent protective surface.

Since Nakamura teaches the limitations of the instant claims, the reference is deemed to be anticipatory.

Claim Rejections - 35 USC § 103

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12. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

13. Claims 2-8 and 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (U.S. Patent 5,089,055) in view of Barton et al (U.S. Patent 4,832,755).

With respect to claims 2, 3, 5, 6, 15, 16, 18, and 19, Nakamura teaches a light element comprising an energy conduit, wherein the energy conduit comprises solar to electric converter (20) which can comprise a solar cell, and the energy conduit also comprises optical waveguide means (16) (i.e., instant light guide) that clearly are flexible (see Figure 1; col. 3, lines 24-61; col. 5, lines 34-40; and col. 6, lines 37-55).

Nakamura's light element further comprises plural concentration means (12), i.e., plural lenses (refractive optical elements or Fresnel lenses), which read on the instant plural translucent surfaces (see Figures 1 and 2; and col. 3, line 52 through col. 4, line 61).

The concentration means (12) tracks the sun to compensate for changing the position of the sun, and this most certainly encompasses uniaxial and biaxial tracking (see col. 5, lines 23-33). With respect to claim 18 and its dependent claims, Nakamura teaches that its light element can be used with manned spacecraft (see Figure 12; col. 1, lines 16-26; and col. 8, lines 5-17). In instant claim 18, the recitation "for demarcating a living space" is merely intended use and is not deemed to be a positive limitation of the claims. In any event, in Nakamura's Figure 12, the spacecraft is the living space since it can be manned. The optical concentrators and waveguide (optical fibers) demarcate the living space of the spacecraft since they are attached to the spacecraft.

With respect to claims 4 and 17, Nakamura's energy conduit can include a fluid line (314) (see Figure 11A and the paragraph bridging cols. 7 and 8).

With respect to claims 7 and 20, Nakamura's optical wave guide (16) has an entry end (14) for receiving the optical radiation (see Figure 1; and col. 3, lines 33-42), and this end can be used to track the moving focal point (see col. 5, lines 23-40). The optical waveguide (16) has an exit end that is stationary and aimed at said solar cell, as one skilled in the art would expect (see Figures 1 and 9).

Nakamura teaches the limitations of the instant claims other than the differences which are discussed below.

With respect to claim 5 and its dependent claims, Nakamura lacks the instant additional translucent surface. Barton et al teaches the encapsulation of solar cells in glass in order to protect the cells from the effects of voltage/plasma interaction in a space environment (see abstract; Figures 4 and 6; and col. 2, line 48 through col. 4, line 60). The substrate (10) and superstrate (14) are made from borosilicate glass, i.e., they are translucent surfaces (see col. 4, lines 40-50; and Figure 7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used Barton et al's glass encapsulated solar cells for the solar cells in Nakamura's device because Barton et al's glass encapsulated solar cells provide the advantage of protection from the effects of voltage/plasma interaction in a space environment. Accordingly, Barton et al's glass substrate (10) then corresponds to the additional translucent surface in claim 5 and the translucent protective surface in claims 8 and 21.

With respect to claim 21, and in the alternative, Nakamura's plural optical waveguides (16) encompass the instant plural translucent surfaces. Thus, Nakamura's lenses (102) in front of each waveguide (see Figure 2), encompass the instant translucent protective surface.

With respect to claim 18, and in an alternative with respect to demarcation, said Figure 12 does not show the concentrating means or the waveguides on the surface of the outer shell of the spacecraft and thus, demarcating a boundary of the spacecraft, i.e., the boundary of the living space. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have placed Nakamura's concentrator means (12) or, with respect to claim 21, the waveguides (16), on the surface of the spacecraft so that the concentrator means (12) or the waveguides (16) are not floating in space.

14. Claims 2, 3, 5-9, 15, 16, and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori (U.S. Patent 4,389,085).

With respect to claims 5, 6, 9, 18, and 19, and as seen in Figure 23, Mori teaches a light element comprising an energy conduit (76) that is an optical conductor such as a flexible light guide, i.e., an optical fiber cable; and a translucent surface, i.e., optical collector (75) so formed as to direct radiation onto the energy conduit that impinges directly on the translucent surface (75) (see also col. 3, line 51 through col. 4, line 46; and col. 15, lines 43-64). The optical collectors taught by Mori are shown in Figure 15, and as seen in Figure 15B, can be an enlarged end of the optical conductor (26) (see also col. 10, lines 16-27). Thus, the optical collector (75) in Figure 23 can be an

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enlarged end of the optical conductor (76). At the beginning of the optical collector (75), i.e., at the enlarged entry surface near reference sign (25) in Figure 15B is the instant translucent surface. The remainder of the enlarged portion plus the optical conductor (76) encompass the instant light guide. Thus, in Figure 32, both the instant translucent surface and energy conduit are disposed between dual glass panes (71,73) forming a window (see col. 15, lines 43-64). The optical collector (75), and thus said translucent surface near reference sign (25), and the remainder of the enlarged portion of the light guide (76), can track the sun (see col. 16, lines 11-33). In particular, Figure 2(B-1) and Figures 23-25 show how to track the sun. In Figures 2(B-2) and 23, the optical fiber cable (2, 52) moves to track the sun (see col. 4, lines 25-33; and col. 12, line 12 through col. 13, line 40). In Figures 23-25, the optical conductor (52) (i.e., light guide (52)) moves so as to track the sun (see also col. 12, line 12 through col. 13, line 15). Figure 2 shows how a plurality of Mori's windows demarcates living space (see also col. 3, lines 63-66; and col. 15, lines 43-64).

With respect to claims 2 and 15, the optical light guide is a refractive optical element.

With respect to claims 3 and 16, the light from the optical conductor (76) of the window in Mori's Figure 32 can be transmitted to any desired place in the building (see col. 15, lines 57-60). Thus, for example, transmitting the light from the optical conductor to the room in which the window is located would have been within the skill of an artisan. When one is using a solar cell powered calculator in said room, the light from the conductor (76) would be used to power the calculator, and thus, the conductor (76)

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and the solar cell calculator encompass the instant energy conduit. With respect to claim 3, a window on the other side of the room, across from said window in Figure 32, would encompass the instant additional translucent surface. With respect to claim 16, the use of multiple of Mori's windows of Figure 32 in a single room so as to provide light in the room, and power the solar cell powered calculator, would have been within the skill of an artisan, particularly I view of Mori's Figure 2. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a solar cell powered calculator in a room having one or more of Mori's windows of Figure 32 present, and another window(s) on the other side of the room, because the operation of a solar cell calculator in a room having windows and light is within the skill of an artisan.

With respect to claims 7 and 20, and as noted above, the optical collector (75), and thus said translucent surface near reference sign (25), and the remainder of the enlarged portion of the light guide (76), can track the sun (see col. 16, lines 11-33). The light guide (76) is aimed at a sunlight distribution system (as in Figure 1), i.e., into, for example, the room of a building (col. 15, lines 57-64). Accordingly, the use of a stationary end of the light guide (76) aimed at a room would have been within the skill of an artisan.

With respect to claims 8 and 21, Mori's light element is located behind glass panel (71) (see Figure 32), which encompasses the instant translucent protective surface.

Mori teaches the limitations of the instant claims other than the difference which is discussed below.

Mori does not specifically require that, in the window of its Figure 23, the optical collector (75) is an enlarged end of the light guide (76), and that optical collector (75), and thus, said translucent surface near reference sign (25), and the remainder of the enlarged portion of the light guide (76), can track the sun. However, in the absence of anything unexpected, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have prepared Mori's window such that the optical collector (75) is an enlarged end of the light guide (76), and that optical collector (75), and thus, said translucent surface near reference sign (25), and the remainder of the enlarged portion of the light guide (76), can track the sun because such is clearly within the scope of Mori's disclosure.

15. Claims 4 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori as applied to claims 2, 3, 5-9, 15, 16, and 18-21 above, and further in view of Cobb, Jr (U.S. Patent 4,805,984).

Mori, as relied upon for the reasons recited above, teaches the limitations of claims 4 and 17, the difference being that Mori does not specifically teach the presence of the instant fluid line. Cobb, Jr teaches a hollow optical wave guide (light guide) for transporting and distributing light (see Figures 1 and 4; and col. 1, lines 14-20). Cobb, Jr's hollow optical wave guide is a fluid line since it contains air in the hollow portion. Cobb, Jr's optical wave guide provides the advantages of eliminating optical constraints regarding construction, reduced costs, and increased total amount of light acceptable for transportation and/or distribution (see col. 2, lines 47-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have

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used Cobb, Jr's optical wave guide for Mori's light guide because Cobb, Jr's optical wave guide provides the advantages of eliminating optical constraints regarding construction, reduced costs, and increased total amount of light acceptable for transportation and/or distribution.

Response to Arguments

16. Applicant's arguments with respect to the instant claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patents 4,191,594, 4,341,201, and 4,459,970 are hereby made of record.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Diamond whose telephone number is 571-272-1338. The examiner can normally be reached on Monday through Friday, 5:30 a.m. to 2:00 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alan Diamond
August 3, 2005

Alan Diamond
Primary Examiner
Art Unit 1753

A handwritten signature in black ink, appearing to read 'Alan Diamond', with a long horizontal stroke extending to the right.